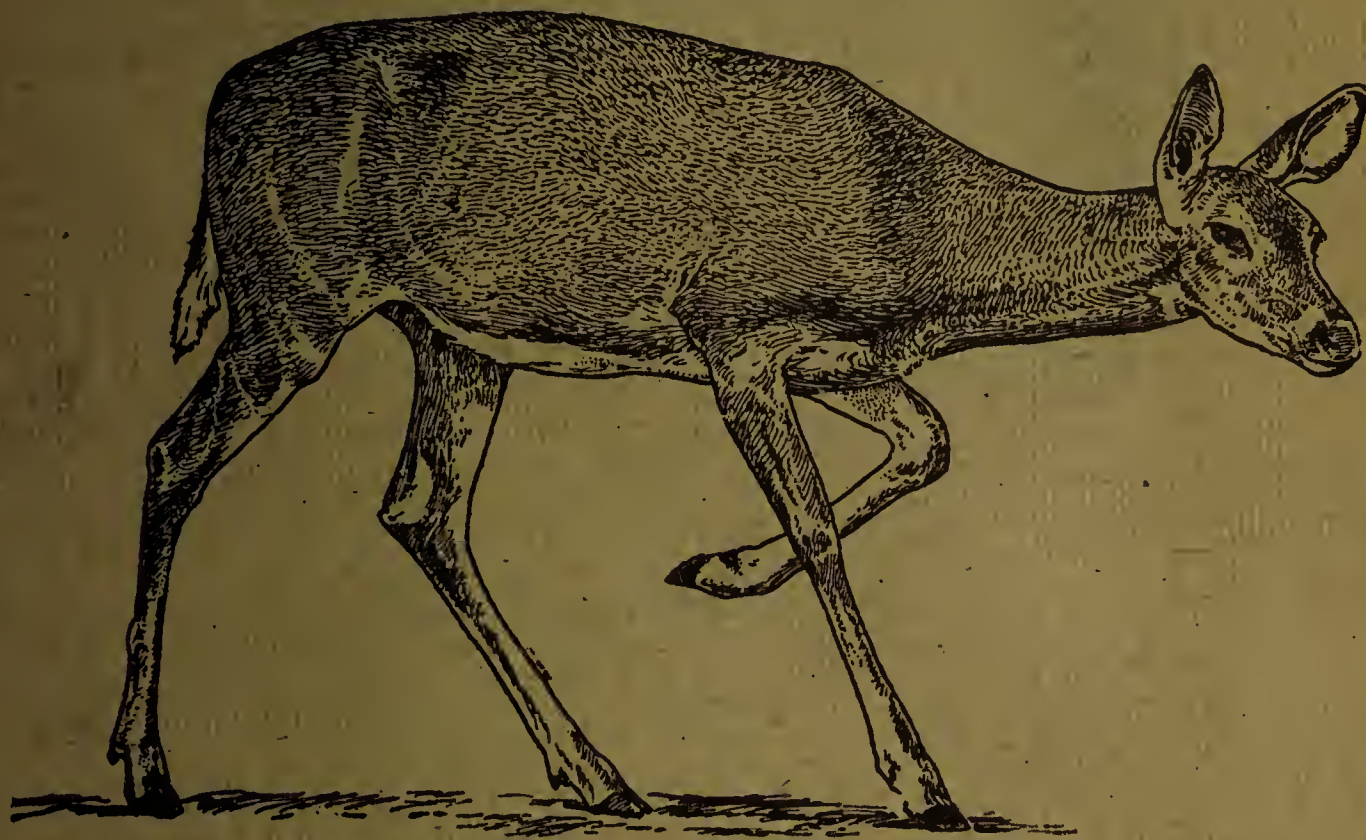


*à M. Paul Lechevalier  
hommage de l'auteur*

AMERICAN MUSEUM OF NATURAL HISTORY

# THE STORY OF MUSEUM GROUPS



BY FREDERIC A. LUCAS

GUIDE LEAFLET SERIES, No. 53

NOVEMBER, 1921









AMERICAN ROBIN GROUP  
THE FIRST BIRD GROUP IN THE AMERICAN MUSEUM

The American robin group was mounted by Jenness Richardson, and placed on exhibition May 10, 1887. The wax leaves and flowers were made by Mrs. Mogridge, who introduced the work into the United States. This was the first of the very large series of bird groups now represented in the American Museum

# THE STORY OF MUSEUM GROUPS

By Frederic A. Lucas

[Third printing, 1921, with some changes and additions, from THE AMERICAN MUSEUM JOURNAL for 1914; pp. 1-15, January, pp. 50-65, February]

\* \* \* \*; quæque ipse [felicissima] vidi

Et quorum pars [minor] fui

THE many groups of animals in the American Museum of Natural History represent many phases of what may be termed "the group question" and illustrate the various steps that have led from the dreary exhibits of forty years ago to the present realistic pictures of animal life. Twenty-five years ago, even, there was scarcely a group of animals, or a descriptive label, in any museum in the United States. It is to be noted that the qualifying adjective *scarcely* is used; for even twenty-five years ago there were a number of animal groups in our museums, though it was still a moot question whether their display was a legitimate feature of museum work, and the educational possibilities of such exhibits were realized by few.

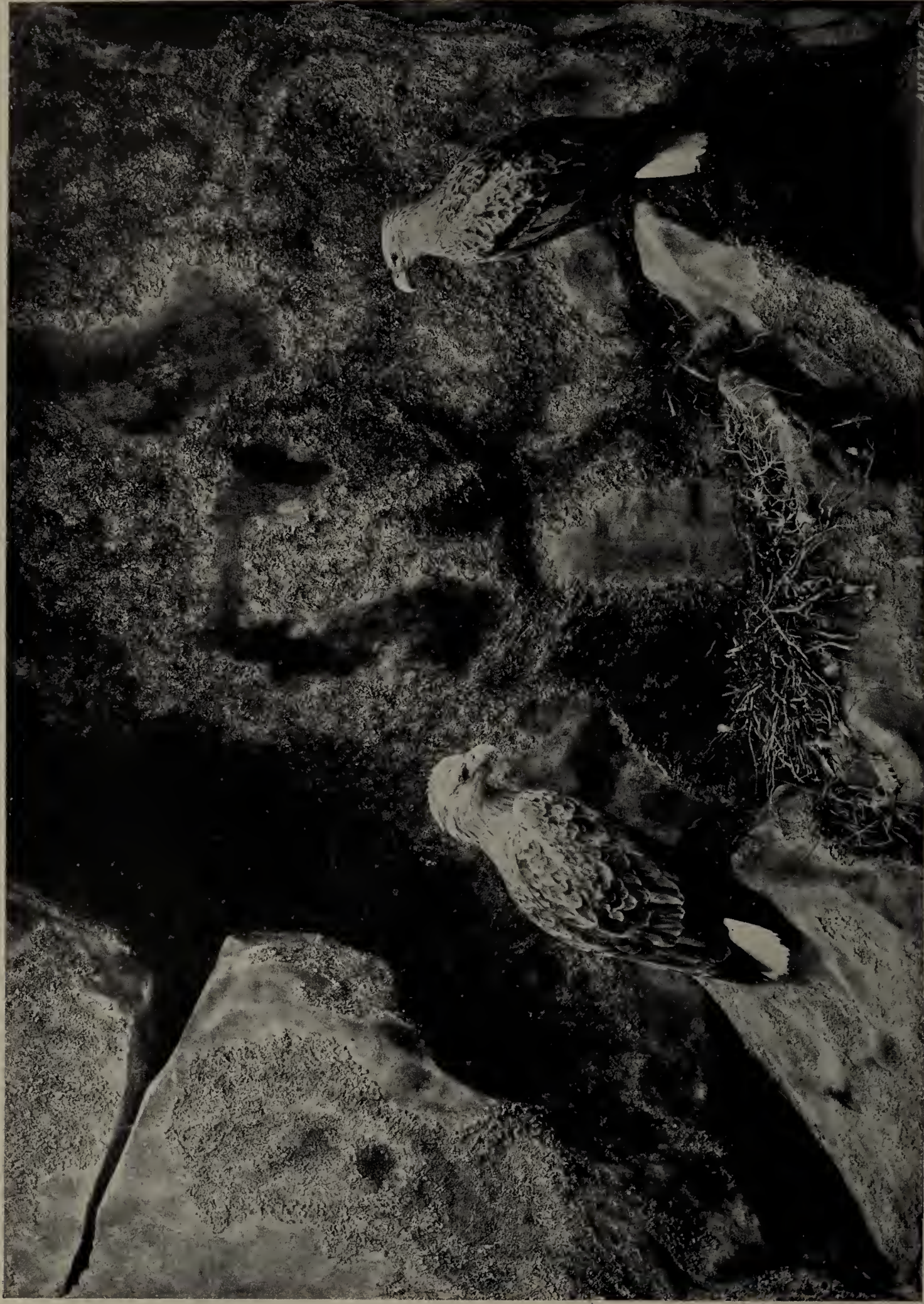
And yet the *idea* of showing animals amid their natural surroundings really goes back to an early period in the history of museums and in 1815 we find it stated in an account of a group of the larger African Mammals in Bullock's Museum that

"Various animals, as the lofty Giraffe, the Lion, the Elephant, the Rhinoceros, etc., are exhibited as ranging in their native wilds and forests; whilst exact Models, both in figure and colour, of the rarest and most luxuriant plants from every clime, give all the appearance of reality; the whole being assisted with a panoramic effect of distance and appropriate scenery, affording a beautiful illustration of the luxuriance of a torrid clime."

Even before this Charles Willson Peale wrote, "It is not customary in Europe to paint skies and landscapes in their cases of birds and other animals and it may have a clean and neat appearance to line them only with white paper, but, on the other hand it is not only pleasing to see a sketch of a landscape, but by showing the nest, hollow cave or a particular view of the country from which they came, some instances of the habits may be given."

Museum authorities are somewhat conservative and as museums at first were mainly for the preservation of material for students, their educational value to the public was not considered. The principal





GROUP OF GOLDEN EAGLES

Booth Museum, Brighton, England. Mounted in 1877

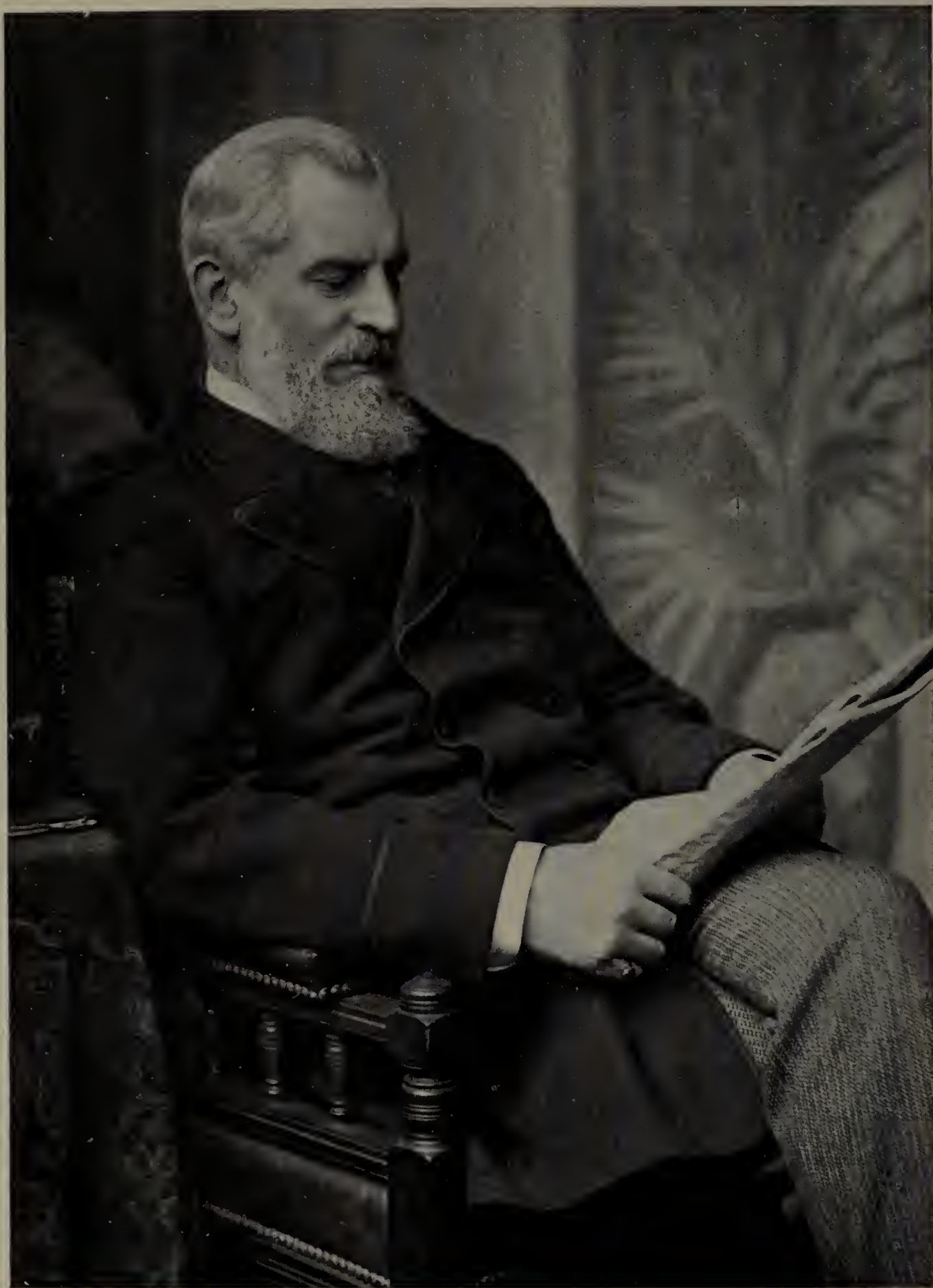


object in mounting animals, especially mammals, was to preserve them and put them in a condition to be studied and compared one with another. Groups were not even thought of and, as Dr. Coues wrote as late as 1874: “‘Spread eagle’ styles of mounting, artificial rocks and flowers, etc., are entirely out of place in a collection of any scientific pretensions, or designed for popular instruction. Besides, they take up too much room. Artistic grouping of an extensive collection is usually out of the question; and when this is unattainable, halfway efforts in that direction should be abandoned in favor of severe simplicity. Birds look best on the whole in uniform rows, assorted according to size, as far as a natural classification allows.” The only use of groups was for a few



R. BOWDLER SHARPE

Under whose auspices the first of the bird groups was installed in the British Museum



SIR WILLIAM HENRY FLOWER

DIRECTOR OF THE BRITISH MUSEUM FROM 1884 TO 1898

Sir William Flower probably did more than any other man to change the character of museum exhibits and make them attractive as well as instructive. He not only planned the exhibits and gave his personal attention to their installation, but in some instances he prepared the specimens himself. In this country like credit should be given to Dr. G. Brown Goode, who was an ardent admirer of Flower and his work in the British Museum



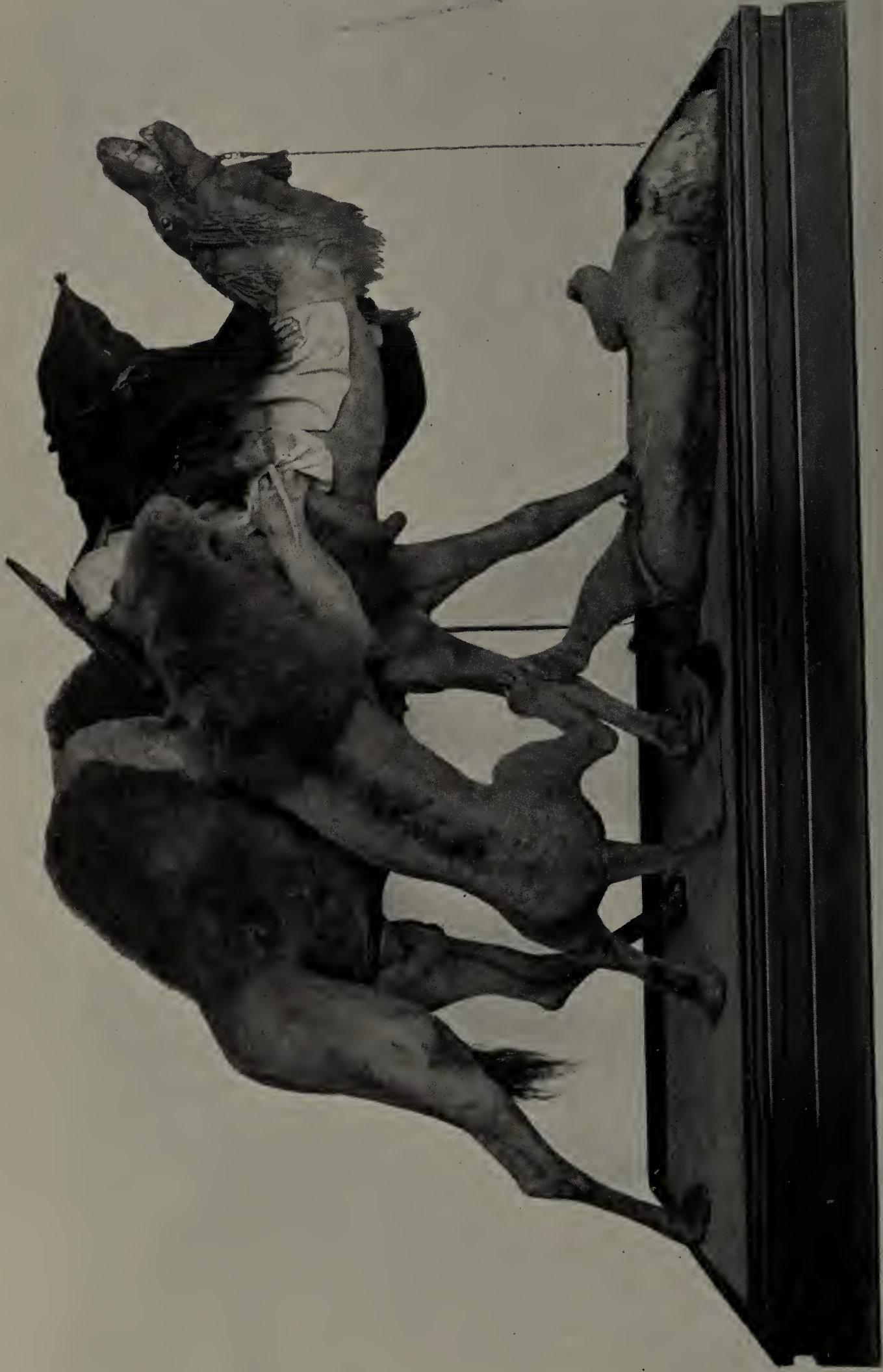


ROBIN REDBREAST GROUP IN THE BRITISH MUSEUM

private individuals and they were mainly heterogeneous assemblages of bright-plumaged birds brought together from the four quarters of the globe and shown simply because they were pretty.

So far as we are aware, the introduction of groups into public museums was due to the influence of an enthusiastic private collector, Mr. E. T. Booth, of Brighton, England, who devoted a large part of his life to making a collection of British birds, mounted in varied attitudes, with accessories that copied more or less accurately the appearance of the spot where they were taken. As Mr. Booth wrote, "the chief object has been to endeavor to represent the birds in situations somewhat similar to those in which they were obtained; many of the cases, indeed, being copied from sketches taken on the actual spots where the birds themselves were shot." These groups were intended to be viewed from





ARAB COURIER ATTACKED BY LIONS

Mounted at the *Maison Verreaux*, Paris, for the Paris Exposition of 1867. This was the first group in the American Museum of Natural History and was displayed for some time in the old Arsenal Building, Central Park. At present it is owned by the Carnegie Museum, Pittsburgh





JULES VERREAUX

Naturalist, Explorer, Taxidermist, Founder of the *Maison Verreaux* that led to the creating of Ward's Natural Science Establishment

the front only and were arranged in cases of standard sizes, assembled along the side of a large hall. The collection, which was begun not far from 1858, was bequeathed to the town of Brighton in 1890, and is known as the Booth Museum, and we earnestly hope that it may endure for many years to come.

Montagu Brown of Leicester adopted the methods of Mr. Booth and a little later, in 1877 or 1878, through the instrumentality of R. Bowdler Sharpe, the first small "habitat group" of the coot was installed in the British Museum, then at Bloomsbury Square. Now it is rather

interesting to note that some naturalists who are best known by their scientific work, and are usually regarded by the public as being of the dry-as-dust type, were among the earliest advocates of naturalistic methods in museum exhibits. Thus, to Dr. Sharpe, whose enduring monument is the *British Museum Catalogue of Birds*, and to Dr. Gunther, best known for his systematic work on fishes, we are indebted for the introduction of groups into a great public museum and for obtaining for them the recognition of a scientific institution of long standing.



BLACK-THROATED LOON

One of the nesting groups of British birds in the British Museum

The installation of bird groups in the British Museum made good progress under the administration of Sir William Flower, who took especial interest in the educational side of museums and in the introduction of exhibits that were attractive, as well as instructive, to the general visitor.

The first group in the American Museum, an Arab courier attacked by lions, was purchased in 1869 and shown in the old Arsenal building in Central Park, then the home of this institution. This group may have been theatrical and "bloody," but, as a piece of taxidermy, it was the most ambitious attempt of its day. Moreover it was an attempt to



show life and action and an effort to arrest the attention and arouse the interest of the spectator, a most important point in museum exhibits. If you cannot interest the visitor you cannot instruct him; if he does not care to know what an animal is, or what an object is used for, he will not read the label, be it never so carefully written. The Arab courier group was prepared under the supervision of Jules Verreaux, the French ornithologist and African traveler, for the Paris Exposition of 1867, where it was awarded a gold medal. This group may have suggested the combat between a lion and tiger, displayed in the Crystal Palace, or that, as well as a similar group formerly in the Calcutta Museum, may have originated independently. The last mentioned group illustrates the importance and effect of something that attracts attention: when the Dalai Lama visited the Calcutta Museum, it soon became apparent that he was looking for some particular object, and it later developed that this was the fighting lion and tiger whose fame had traveled into far distant Tibet.

It is worth noting here that the *Maison Verreaux* suggested to Professor Henry A. Ward the possibility of establishing a similar institution in the United States; whence the well-known Ward's Natural Science Establishment at Rochester, New York. And we cannot help feeling that Ward's Establishment had much to do with the history of animal groups. Hither came and hence departed many a man who directly or indirectly did much to advance the art of taxidermy and make possible the existing order of things. Named according to the time of their coming, Hornaday, Webster, Wood, Critchley, Turner, Denslow, and Akeley were all graduates of the old Establishment. Perhaps some of them do not like to be considered as taxidermists, but we can hardly call my friend Wood, whose birds lack nothing save voice and movement to make them seem alive, an animal sculptor, and we hope no one will take offense at being called a taxidermist. If he who delves among books in various dead and living languages to decide which of the numerous many-syllabled names some small creature is rightly entitled to bear does not object to being called a taxonomist, he who works upon the skins of creatures great and small should not object to the rightful name of taxidermist. So taxidermist let it be for the present, or until a better name is coined.

As there are so-called sculptors, who are mere makers of figures, and will be that, and that only, to the end of their days, so there are taxidermists, men like Akeley, Clark and Blaschke, who are sculptors in every sense of the word. And in some ways their task is more difficult than that of the sculptor who deals only with plastic clay, for the taxidermist has not merely to prepare his model, but to fit over it a more or less un-

yielding hide, a hide that does not conceal the defects of the model but has defects of its own to be hidden. Probably no one who has had actual experience in mounting large mammals would question this, though probably few visitors realize the great progress that has been made in the mounting of animals, particularly large mammals. Not very many years ago animals were most literally stuffed—suspended head downward and rammed full of straw, often until they could hold no more. Then came the making of a manikin of tow and excelsior; next the manikin of wire-netting and papier-maché, and finally the modeling of the animal in



MANIKIN OF WIRE CLOTH AND PAPIER-MÂCHÉ.  
By Remi and Joseph Santens. Photograph to  
illustrate strength of modern manikin

clay, copying all the folds and wrinkles of life, the molding of this in plaster and in this mold making a light and durable form, or manikin, upon which the skin is deftly placed.

Here again Mr. Akeley has improved upon himself and perfected an entirely new plan for mounting large mammals whereby they are at once more readily modeled, infinitely lighter and vastly more permanent.

Thus methods changed and improved, by far the greatest advance being due to Akeley, who devised the light, strong manikin just alluded to, now in general

use. There were various tentatives by others, and it should not be forgotten that many years ago C. J. Maynard employed a plaster cast made from a clay model and that years before this Peale made a manikin of wood, the limbs being carefully carved to give the muscles the swell proportionate to their action: this method he used especially for animals that had not an abundance of hair.

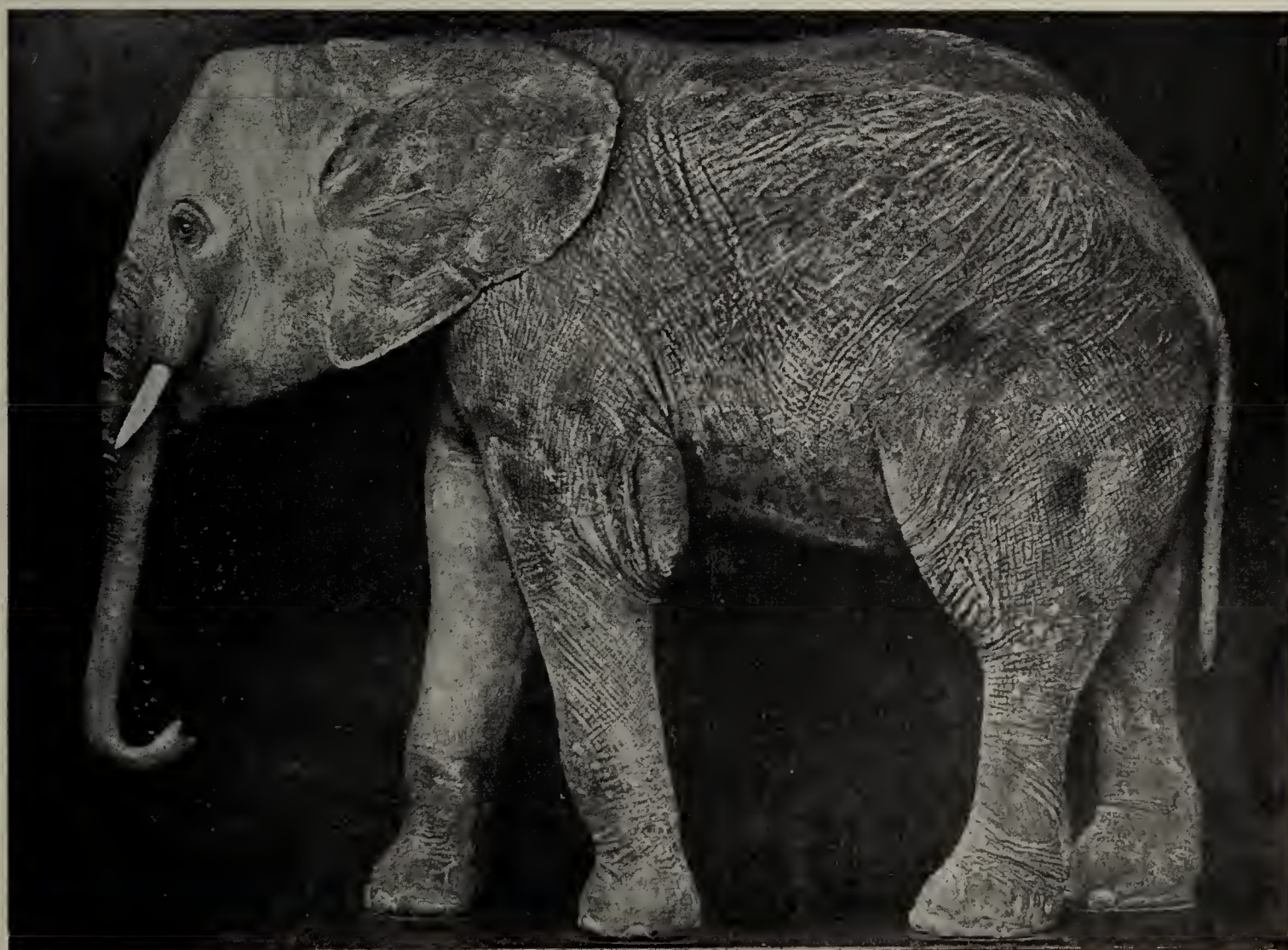
Unfortunately, it seems never to have occurred to the users of plaster that museum specimens are moved about and plaster casts can be made light and strong. Hence they made their manikins solid, or almost solid, with the result that it required an effort to lift so small an object as a fox, and took four strong men to handle a deer, while the specimens were racked by their own weight and wreaked damage to everything with which they came in contact.





GROUP OF ORANG-UTANS IN THE AMERICAN MUSEUM. Collected and mounted in 1880 by W. T. Hornaday. This was the first large mammal group in the American Museum [Manikin of excelsior and tow]

This cut, reproduced from a wood engraving in *Harper's Weekly*, is a reminder of the time when half-tones were unknown



AFRICAN ELEPHANT MUNGO IN UNITED STATES NATIONAL MUSEUM. Mounted by W. T. Hornaday in 1882





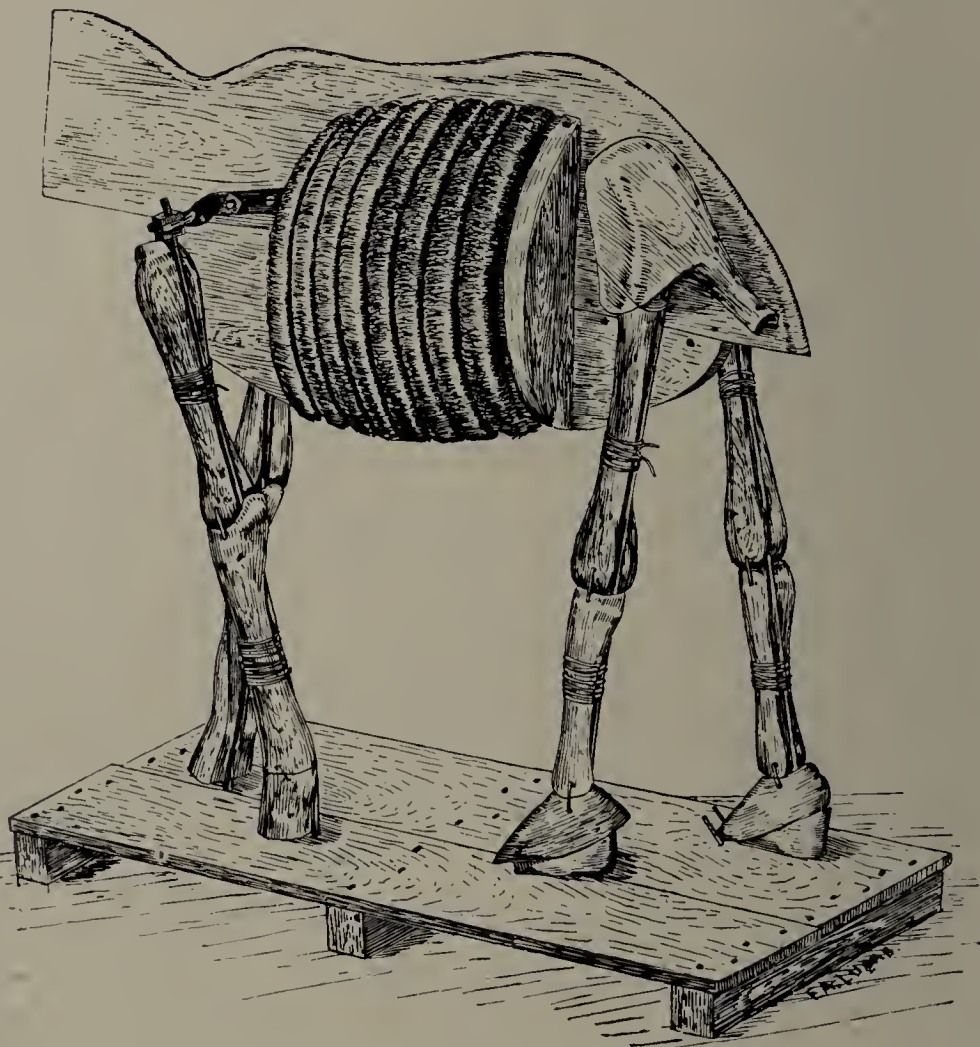
PAPIER-MÂCHÉ MANIKIN FOR AN ORANG-UTAN. By Remi Santens

I know not who mounted some of the pieces, fair to look upon, that it has been my misfortune to handle during the past few years even, but I do know that I have many times and oft vigorously cursed their perpetrator and wished that he who devised the process had died in early infancy.

The group of Arab and Lions was followed about a decade later, 1880, by the group of oranges collected by Hornaday, mounted

by him shortly after his return from a two years' collecting trip around the world and presented to the Museum by Robert Colgate.

This again leads us to note that the energy of Dr. Hornaday had much to do with the formal introduction of animal groups into the American Museum of Natural History and recognition of their place in museum work, because Jenness Richardson



THE FRAMEWORK OF MUNGO





BISON COW AND CALF

A detail of the Group of American Bison mounted in 1889 by Jenness Richardson, Head of the Department of Taxidermy, American Museum of Natural History, from 1886 until his death in 1891

was a pupil of Hornaday, and Rowley in turn a pupil of Richardson, and by them and under their supervision was begun the series of groups now justly famous.

These early groups did not find their way into museums without protest, as may be imagined from the remarks of Dr. Coues quoted on a previous page, but in 1887 the first group of mammals was installed in the United States National Museum, and this was followed a year later by a large group of bison.

The other day, when listening to the protest of a curator against the withdrawal of a certain group from exhibition, we wondered if he remembered another protest against the introduction of a bone that a coyote might have some excuse for action. Verily *tempora mutantur*.

An important factor in the evolution of groups and their introduction into museums was the development of the art, for art it is, of making accessories, for without the ability to reproduce flowers and foliage in materials that would at once have the semblance of reality, and endurance under the vicissitudes of temperature in the intemperate zone in

which most museums are located, half the charm and value of groups would be lacking. For progress in this direction we are indebted primarily to the Messrs. Mintorn of London and their sister, Mrs. Mogridge, who reproduced the foliage in the groups of birds in the British Museum, and later came to New York to carry on the same work for the small bird groups,<sup>1</sup> though their methods have been replaced by one devised by Akeley.

Prior to this wax leaves and flowers were made of pure sheet wax and were necessarily fragile, though in many cases really very beautiful. The art of making them was one of the accomplishments of artistically inclined ladies half a century or more ago and directions for making them may be found in Godey's Lady's Book and Peterson's Magazine, interspersed with directions and patterns for slippers and other worsted work.

Foliage of such fragile character was naturally not fitted for use in Museum groups, and the only leaves to be had by the aspiring taxidermist of 1880 were the heavy opaque cloth leaves made by manufacturers of millinery supplies, which at least had the merit of durability.

The Orang group in the American Museum of Natural History was provided with such leaves, and they were, at the end of thirty-five years' service, replaced by more accurate copies of the foliage of the Durian.

The earliest bird groups in the American Museum of Natural History, the first of which was very appropriately the American Robin, were made largely after those in the British Museum and installed each in a small case so as to be viewed on four sides. They thus differed from their prototypes in the Booth Museum which, as noted, were intended to be seen from one side only.<sup>2</sup>

They were all groups of small or moderate size and confined to species found within fifty miles of New York City. The time was not yet come, though it was near at hand, for the execution of the large naturalistic groups with which we are now familiar, and Museum officers and trustees would have hesitated to incur the time and cost involved in their preparation.

---

<sup>1</sup>A description of these methods, improved upon by apt pupils, is to be found in *Plant Forms in Wax*, Guide Leaflet No. 34, published by the American Museum.

<sup>2</sup>These early American Museum bird groups, thirty-four in number, have been brought together with the other "Local Birds" in the west corridor of the second floor





- 1—LIONESS. An example of early work
- 2—AFRICAN LION. Mounted at the *Maison Verreaux* about 1865
- 3—AFRICAN LION, "HANNIBAL." Mounted at the American Museum of Natural History by James L. Clark in 1906.





FISHES OF A CORAL REEF

By Alfred J. Klein, 1907. The first really successful fish group



ONCE admitted into museums, a precedent established, and entrenched behind the bulwarks of high scientific authority, groups slowly found their way into all museums and their scope extended to all branches of natural history as fast as opportunity offered and the skill of the preparator would permit. And to-day, from the Atlantic to the Pacific, there is a friendly rivalry among museums as to which shall have the finest groups. Birds lend themselves more readily to groups than does any other class of animals; they combine beauty of form, pose and color with moderate size that permits ease of handling. Hence birds naturally were chosen for the first museum groups, and bird groups still predominate.

Just as naturally mammals followed birds and from mice to elephants have furnished many notable groups and many triumphs—and failures—for the taxidermist. After mammals came anything that the taxidermist or modeler could master—reptiles, fishes, insects and other invertebrates, and last of all plants, which copied by modern methods are ever green and may be made to show their adaptations to environment and interrelations to varying conditions of soil, climate and surroundings.

Yea, the group idea has even been carried into the dim and distant past and in the hall of fossils one may behold a ghostly group of great ground sloths, or farther on, *Allosaurus* feeding upon *Brontosaurus*. And the ground sloths passed out of existence thousands of years ago and *Allosaurus* has not felt the pangs of hunger for over six million years!

Fishes offer some of the most difficult problems; not only does their expression depend almost entirely upon their attitudes, but in many cases there is little of interest in their habits, or small beauty in their surroundings, when they have any. And added to all these things is the ever present difficulty of making a fish suspended in air look as though he were swimming in water. Furthermore in the character of their integument, fishes and amphibians furnish a practically insurmountable problem in the way of mounting, which has led to much friendly discussion as to whether it is better to show a stuffed specimen that does not at all resemble the living animal or a cast that cannot be distinguished from it.

In this instance the writer is entirely on the side of those who offer "something just as good," believing firmly that the object of exhibits is to hold the mirror up to nature and let it reflect an image of nature as she looks when alive, not as she appears when dead and shriveled. And if a cloth leaf and a glass eye are allowable, why not a wax frog and a celluloid fish?

One of the first efforts in the line of fish groups, that by Mr. Alfred J. Klein in the Brooklyn Museum, showing the fishes of a coral reef, is



one of the best, partly from the nature of the subject, which affords more scope for attractive surroundings than is usually presented. And while the credit for this group, prepared in 1907, is entirely due to Mr. Klein, yet it really dates from a memorandum written in 1893 after an interview with Dr. Goode, "make a group of red snappers with natural sur-



THE WHARF-PILE GROUP

Marine group in the American Museum by Ignaz Matusch and other preparators under the supervision of Roy W. Miner, 1914. It shows the sponges, hydroids, sea anemones and other invertebrate animals with which wharf piles in favored localities are crowded below low-water mark

roundings." It embodies principles, carried to great perfection in the habitat groups, that were independently worked out in the construction of a group of octopus, forming part of the exhibit of the United States National Museum at the Chicago Exposition of 1893. Painted background connected with the foreground, rounded corners and overhead





PORTION OF THE PADDLEFISH GROUP  
In the American Museum of Natural History



OCTOPUS GROUP

This group was prepared by Dr. F. A. Lucas for the Chicago Exposition of 1893 and is at present in the United States National Museum. The animals were modeled in clay and cast in "catcartine," a mixture of glue and gelatin



lighting were all used in this small group, and while in comparison with what has been done since, it now seems a very crude little affair, yet it contained the germs of the beautiful Orizaba group.

The curved, panoramic background and overhead lighting—borrowed consciously or unconsciously from our cycloramas—permit the last touches in the way of illusion and control of light, regardless of the time



VIRGINIA DEER IN THE AMERICAN MUSEUM

Virginia deer, American Museum of Natural History, mounted by Mr. Carl E. Akeley in 1902. This is an example of work that has made modern taxidermy an art. The work of the taxidermist is in a way more difficult than that of the sculptor, that is, he must not only make a model of the animal in life-like pose, but must then with great art fit over this model the unyielding skin of the animal

of day. The octopus group embodied also another idea, brought to great perfection here by Miss Mary C. Dickerson, that of making a single mold serve for making many individuals. In the octopus group the animals were cast in gelatin compound and bent into diverse attitudes; to-day casts are made in wax, warmed and worked into many poses; a case of the parallel development that occurs in methods as well as in nature.

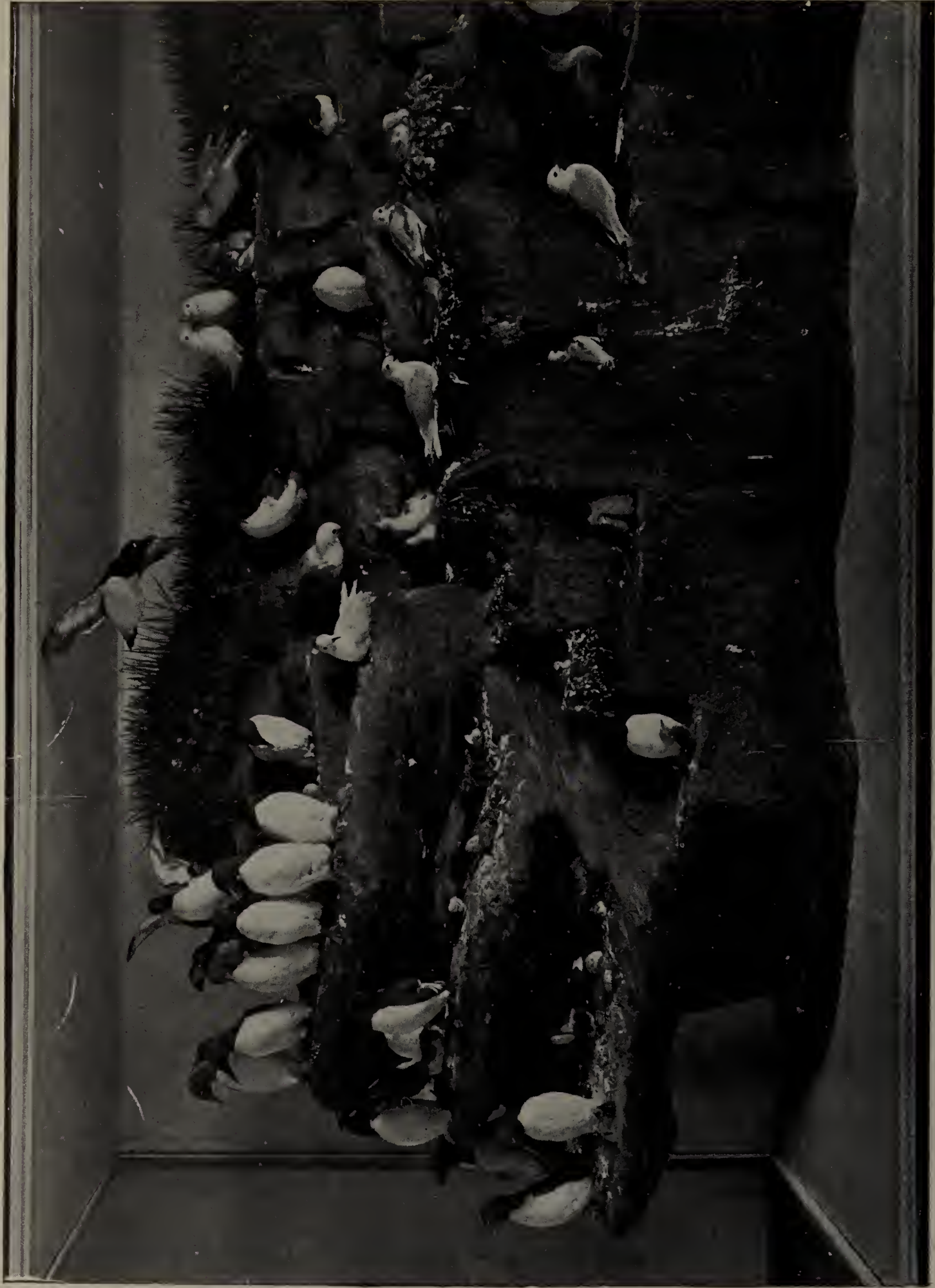




#### HOWLING MONKEYS

In the Museum of the Brooklyn Institute of Arts and Sciences, mounted by Mr. J. William Critchley. It is a group whose main purpose is to show the varied attitudes of the animals. Such groups preceded the large naturalistic groups which combine artistic effect with instruction and so greatly enhance the educational value of museums





#### THE BIRD ROCK GROUP

The first large bird group. This was made in the American Museum under the supervision of Frank M. Chapman in 1898 but was never installed as he had planned





#### THE ORIZABA GROUP

One of the more recent of the large bird groups in the American Museum and typical of the "habitat groups." Constructed by William Peters and other preparators of the Museum, background by Bruce Horsfall





PART OF THE LAYSAN ISLAND GROUP

Made for the State University of Iowa by Homer R. Dill. This group shows a portion of the albatross rookery on the little island of Laysan where millions of birds find a home in the middle of the Pacific Ocean. Background by Charles Corwin

The first bird groups, those in the British Museum and those here, were, if we may borrow a phrase once familiar, now almost obsolete, pre-Raphaelistic in their character—exact copies of the spot or surroundings where the animals were taken. The plants were counted and plotted on a diagram; sod, roots and shrubs were dug up and transported, often in the face of great difficulties, to the museum where the group was to be established, and there assembled in the exact and proper order of occurrence. The next step was the habitat group, and here is where Dr. Frank M. Chapman comes into the story, for it is to him that we owe the series of nature pictures known by that name.

The habitat group does not copy nature slavishly, even though an actual scene forms the background; it aims to give a broad and graphic





presentation of the conditions under which certain assemblages of bird life are found, to bring home to the observer the atmosphere and vegetation of some typical part of the country. But save in exceptional cases, the foreground does not exactly reproduce any given bit of country, although it does copy the plants and shrubs found there. How these groups were prepared, what journeyings by flood and field they involved are told by Dr. Chap-

man himself in *Camps and Cruises of an Ornithologist* and very briefly in the leaflet describing these groups.

The habitat groups thus involved a slight departure from nature, in that while the background depicted an actual scene, the foreground was often generalized and this involves the whole question of how far it is allowable to depart from actualities. May we combine animals from different localities or show together those taken at different seasons? Shall we fabricate our soil and "fake" our trees? Personally the writer believes that all these things are permissible, with certain restrictions, nay, in some instances, must be done, not merely to make a group at all, but to enhance its educational value. For example, a bison in his winter coat may be introduced into a group with the mother and young and a baby moose placed with an antlered bull—in no other way can you complete the life cycle and tell the whole story.

Dr. Chapman found it physically impossible to bring away the water-soaked nests of the flamingoes; Mr. Cherrie found equal difficulty with

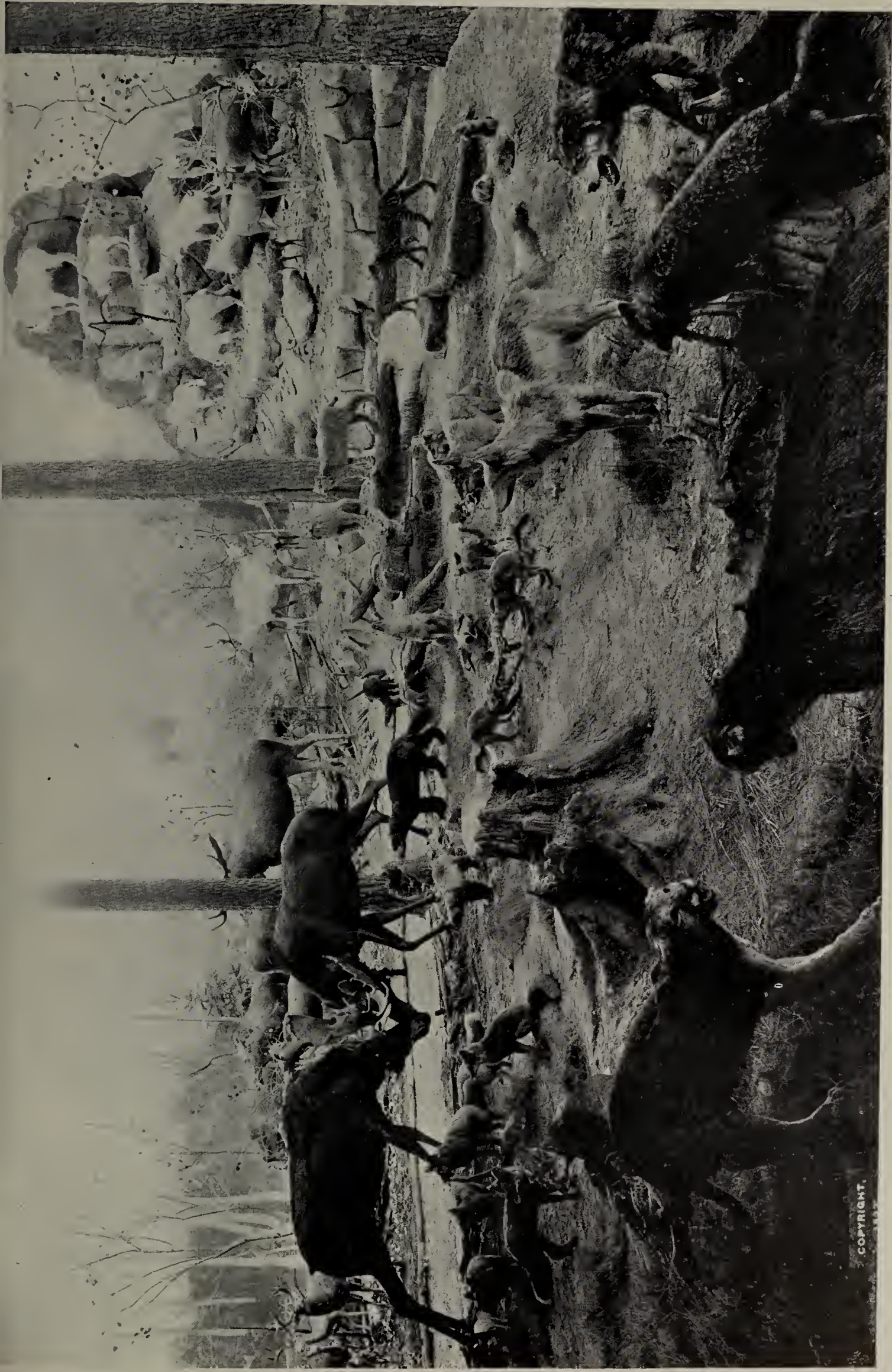




#### THE LOWER CALIFORNIA LIZARD GROUP

The third of the series of reptile groups in the American Museum, made in 1913 by Frederick H. Stoll and other preparators of the institution under the supervision of Miss Mary C. Dickerson

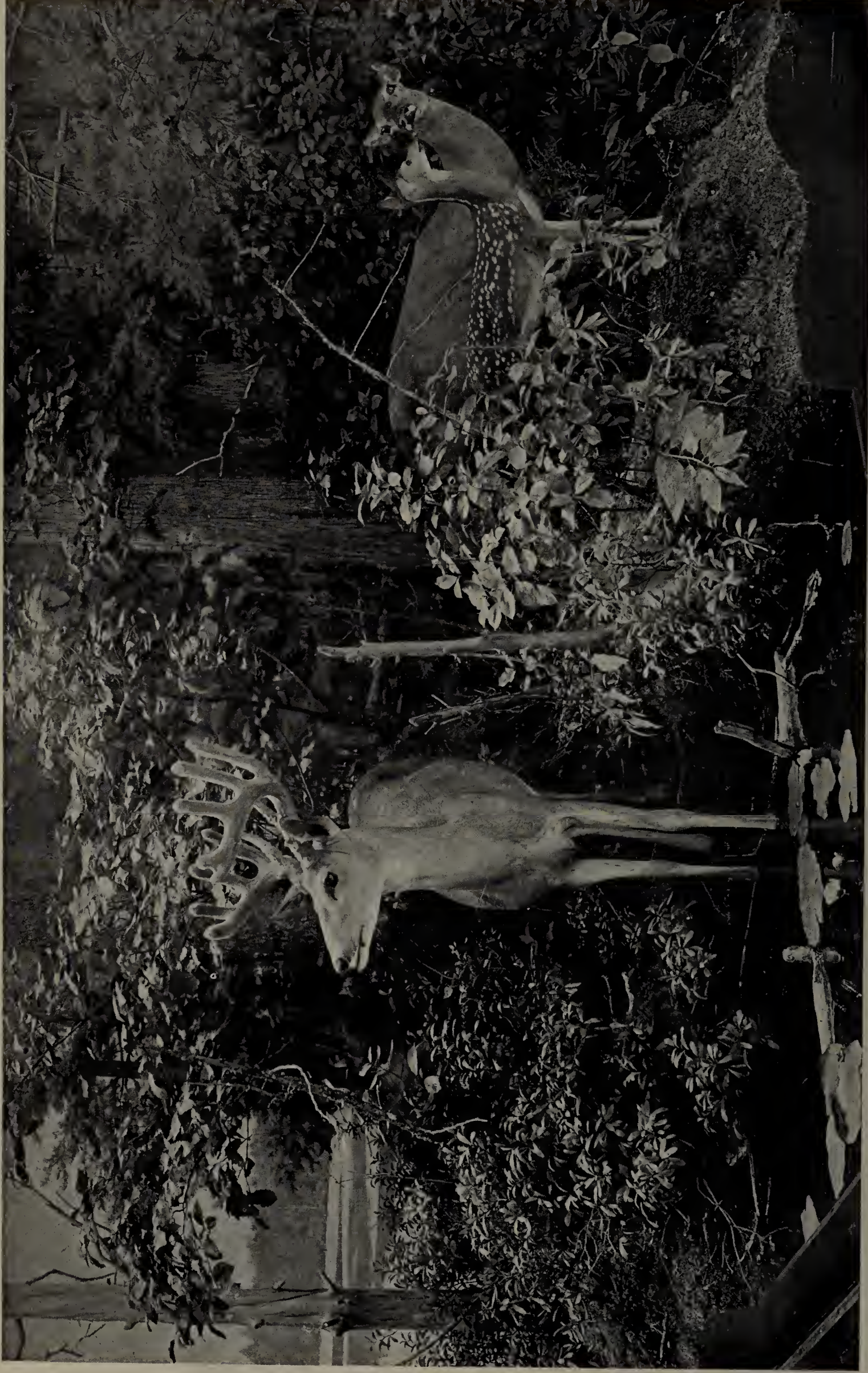




CYCLORAMA GROUP OF MAMMALS OF NORTH AMERICA

In the Museum of the University of Kansas, a group prepared by L. L. Dyche to show North American mammals from plain to mountain and from temperate to Arctic America





THE FOUR SEASONS—SUMMER

In the Field Museum, Chicago. By Carl E. Akeley, 1902



the sodden nests of the guacharo birds, while to carry off the cave in which they were found would have defied even Hercules in his prime. Here certainly, fabrication is a necessity; and if so much, why not more? If we cannot import a tree from the forests of Venezuela, let us "adapt" an ironwood from Vermont, whereon a colony of howling monkeys may disport themselves. In this case it is the animals and not their surroundings that are to be emphasized, and the accessories are a matter of secondary importance, merely a setting.

The first large group, the Bird Rock group, placed on exhibition in 1898, was not definitely planned as a habitat group, but merely as a picture of part of a famous and impressive bird colony and to make "a permanent record of this characteristic phase of island life." The Cobb's Island group was the next and the first real habitat group to be constructed, this subject being chosen partly because it provided a large and interesting group at small expense.

Year after year this series of groups has been extended, covering the country from east to west and north to south, until room is left for but one more, and that, it is hoped, will include the bird life of the Arctic regions.

The Bullfrog, Giant Salamander and Florida groups, particularly the



HEAD OF  
MOUNTAIN  
SHEEP, IN  
THE BROOK-  
LYN MUSEUM.  
Mounted by  
Remi Santens,  
for many years at  
Ward's Establish-  
ment, now at Carnegie  
Museum, Pittsburgh

latter, belong in still another category and may be termed synthetic, or life study groups, bringing together in one composite picture a number of animals that probably would not be found in so small an area at any one moment of the season depicted, but might all be found there at some moment of the season. Such a group may, or may not, repre-





#### THE BUTTERFLY GROUP

##### The Monarch Butterfly—migrating

Butterflies, numbering more than 1200 specimens, mounted and placed by Charles Wunder, accessories by W. B. Peters.





#### DESERT LIFE GROUP

In the Brooklyn Museum, planned by Edward L. Morris, executed by Antonio Miranda and Herbert B. Tschudy, 1917. This was intended to be a strictly botanical group to illustrate the plant life of a desert and to form part of an extensive exhibit in which groups should do for plants what the Habitat Groups of Birds do for animals.

After the death of Mr. Morris the plan for a botanical exhibit was unfortunately abandoned and a group of antelope, mounted by Mr. Robert H. Rockwell, then added



sent a particular spot; it does depict the natural conditions under which the animals are to be found and shows them engaged in the most characteristic and interesting of their varied occupations. In this, the day of moving pictures, we may say that as the moving picture condenses into five minutes' time the events of days or weeks, so these groups depict in a few square feet of space the life and happenings of a much larger area.

The group in its latest form is to be found in the Museum of the University of Kansas, where it includes a great part of the Museum, a special section having been constructed to contain a large cyclorama where the various North American animals from plain to mountain and from temperate to arctic America may be viewed approximately as they would be seen in nature.<sup>1</sup> Somewhat similar is the Laysan Island group, executed for the State University, Iowa, by Mr. Homer R. Dill, where the visitor gazes about him at the imposing assemblage of albatrosses and other sea fowl, while beyond the blue Pacific stretches to the horizon. Aside from these the bison and moose groups in this Museum, made by Richardson and Rowley, are the largest that have been made, and although they have been on exhibition for twenty-four and twenty years respectively, they compare favorably with those of to-day.

The African mammals, by Mr. Carl E. Akeley, in the Field Museum, are among the finest of their kind for pose and character, but the "Four Seasons," in the same museum and also by Mr. Akeley, depicting the Virginia deer in spring, summer, autumn and winter, represent high-water mark in this direction, combining as they do pictorial beauty with scientific accuracy of detail. It was while engaged on these groups that Mr. Akeley perfected the method of making the manikin, or artificial body on which the skin is placed, so as to combine strength, lightness and durability, and also devised methods for the rapid reproduction of leaves and a compound stronger and more durable than wax. The need for making leaves in large quantities is shown by the fact that in the "Four Seasons," the summer group alone called for seventeen thousand leaves.

Such, briefly, is the story of museum groups; they have grown from the little box containing a pair of birds and a square foot or two of their immediate surroundings, to entire colonies of flamingoes and albatrosses and the broad sweep of land or sea shown in the Orizaba and Laysan groups. No one man can justly claim credit for the beauty and accuracy of such groups as may to-day be seen in our larger museums; many have contributed to this perfection and some stand preëminent among the rest. To each and all his just meed of praise. Some, whose work might

---

<sup>1</sup>This prepared by and under the direction of L. L. Dyche, is an amplification of his ideas as shown in 1893 in the Kansas Building at the World's Fair.





THE GROUND SLOTH GROUP  
The American Museum of Natural History



now provoke a smile, labored hard and earnestly in the face of many discouragements to lay the foundations on which we build to-day. Some of whom the present generation has never heard, held out a helping hand to the youthful would-be taxidermist and by aid and encouragement started many of our best men on their career, and some, keen observers of nature, endowed with artistic spirit and possessed of technical skill, have perfected what others began.

---

Great progress has been made, especially in our newer museums, in the installation of habitat groups, notably those of mammals, during the seven years that have elapsed since the *Story of Museum Groups* was written. The most noteworthy among them are those prepared by Mr. John Rowley in the California Academy of Sciences, showing the characteristic large mammals of California. Not only are these groups not restricted in size but they have the great advantage of being installed in a hall planned and built for their display, points wherein Mr. Rowley has worked under conditions more favorable than those enjoyed by his predecessors. However, he expects to do even better in the series planned for the Los Angeles Museum.

The Public Museum of Milwaukee has placed on exhibition a number of groups, among them a series illustrating the habits and habitat of the races of man found in North America. In this connection should be noted the remarkably fine series of the Iroquois in the State Museum at Albany installed in 1915 and 1916, which reach high water mark in this direction. That habitat groups will, in the future, form an essential part of every important museum seems undoubted, but the question arises, though it is propounded very timidly, if there is not danger that the matter of groups may be overdone. Not every animal is worthy to be included in a habitat group and while it is the duty of a museum to present to the public Nature in her fairest forms, yet this should not be done to the exclusion of other important matters.

Furthermore the space demanded by groups, with the attendant cost of building and administration, necessarily limit groups, especially in our smaller institutions.









AMERICAN MUSEUM OF NATURAL HISTORY

---

FOR THE PEOPLE

FOR EDUCATION

FOR SCIENCE